

GYRATORY COMPACTOR APPARATUS AND ASSOCIATED DEVICES AND METHODS

ABSTRACT OF THE DISCLOSURE

A gyratory compactor apparatus is provided for interacting with a sample within a generally cylindrical mold having a flange. Such an apparatus comprises a frame defining an axis and an offsettable member engaged with the frame for engaging one end of the mold. The offsettable member is displaceable from the axis and is concurrently movable in an orbital motion thereabout. A pressure ram is movable along the axis and a mold-engaging device is engaged with the frame for receiving the mold such that the mold and frame axes are coaxial. The pressure ram is axially movable within the mold to apply a compaction pressure on the sample, and thereby maintains a portion of the mold at a gyration point along the frame axis. The mold-engaging device axially moves the mold into engagement with the offsettable member. A securing device engaged with the offsettable member and movable therewith reversibly engages the mold to secure the mold to the offsettable member as the secured end is moved in the orbital motion by the offsettable member. The mold is thereby gyrated and dynamically maintained at a gyration angle. Associated apparatuses, devices, and methods are also provided.